

BUILT-IN SPACERS FOR LIQUID CRYSTAL ON SILICON (LCOS) DEVICES

ABSTRACT OF THE DISCLOSURE

5

Liquid crystal on silicon (LCOS) cells include a plurality of pixel elements formed between substrates. Spacers are formed on a portion of some of the pixel elements and positioned in the cell gap. The spacers on each of these LCOS cells reflecting different colors are formed in different locations in each cell.

10 The result is that substantially none of the spacers create overlapping dead spots in a composite image. The spacers are further distributed among these pixel elements such that spacers are absent from some pixel elements and such that there is a substantially uniform thickness in the cell gaps. The reduced severity of the dead
15 spots in the composite image as a result of the spacers in different locations, the reduced size and number of the spacers, and the uniformity in the cell gaps provide higher optical image quality.